RETROPERITONEAL TERATOMA IN ADULT

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HOW TO CITE THIS ARTICLE: Parikh JV, Dalal PR, Patel KS. Retroperitoneal teratoma in adult. J. Evolution Med. Dent. Sci. 2018;7(37):4125-4128, DOI: 10.14260/jemds/2018/923

PRESENTATION OF CASE

- A 26-year-old female presented with complaint of right upper abdominal pain for 3 months. Patient was relatively asymptomatic before 3 months and then she developed right upper abdominal pain which was dull, intermittent and occasionally associated with nausea.
- No h/o vomiting, yellowish discolouration of sclera, burning micturition, constipation, loss of appetite or weight loss.
- Past h/o uterine D and E done before 3 years. She had no co-morbid illness and no previous surgery.
- Personal and menstrual history was not significant.
- On general examination, patient was well built and well nourished. Vitals were within normal limit. No sign of jaundice, anaemia, cyanosis, clubbing, oedema or lymphadenopathy.

Blood Investigations

Hb- 11.5 %gm
Tc- 7300/cmm
PT- 13.7 sec.; INR- 1.16
Total bilirubin- 0.4 mg/dL; ALP- 80 U/L
Total protein- 7.1 g/dL; Albumin- 4.1 g/dL; A/G ratio- 1.367
Na- 136.70; K- 4.5 mg/dL; Creat.– 1.03 mg/dL; Urea- 17.70 mg/dL

CXR and AXR

NAD.

USG (A + P)

Approx. 15 x 12 x 15 cm sized heterogeneous echo-textured lesion with no Doppler perceptible vascularity is noted in right hypochondrium. The lesion shows multiple cystic areas with internal echoes and echogenic material. Few of them intercommunicating. The solid component of lesion does not show Doppler perceptible colour flow and appear isochoric to mesentery p/o fat component. Tiny foci of calcification was noted within the lesion.

- Superiorly lesion abuts and displaces the liver.
- Inferiorly lesion displaces and abuts the kidney.
- Medially, the lesion displaces IVC anteriorly and medially towards the right side.
- The lesion displaces pancreas anteriorly and medially towards the right side.
- Findings s/p/o retroperitoneal mass lesion, possibility of adrenal could not be ruled out. D/D to be considered is retroperitoneal liposarcoma/teratoma.

Gallbladder well distended with Few Calculi Within

- Teratomas are congenital tumours that may contain derivatives of all three germ layers.[1]
- They usually arise in the gonads and often occur in infancy and childhood.
- A primary retroperitoneal teratoma is a relatively rare disease in adults.
- Here, a case of retroperitoneal teratoma in an adult female. She was presented with right hypochondrial pain and examination revealed a mass in the abdomen.
- Teratomas are congenital tumours consisting of derivatives from the ectoderm, endoderm and mesoderm germ cell layers.
- A teratoma is considered to be a non-seminomatous germ cell tumour and is typically located in either the sacrococcygeal region or in the gonads. Malignant mature cystic teratomas (0.2 - 2% of cases) have the potential to metastasise to sites, such as the retroperitoneal lymph nodes and lung parenchyma.
- Retroperitoneal teratomas are commonly identified in early childhood, but are rarely reported in adults. Giant retroperitoneal teratomas in adults are even rarer with only a few cases previously described in the literature.
- Here, I report a case of retroperitoneal teratoma in an adult with successful surgical treatment. Its clinical presentation, diagnosis and treatment are reviewed.

DIFFERENTIAL DIAGNOSES

- Retroperitoneal liposarcoma.
- Retroperitoneal myelolipoma.

'Financial or Other Competing Interest': None.
Submission 10-07-2018, Peer Review 25-08-2018,
Acceptance 31-08-2018, Published 10-09-2018.
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DOI: 10.14260/jemds/2018/923

- Retroperitoneal teratoma.
- Adrenal mass.
- Renal mass.

CECT (A+P) –

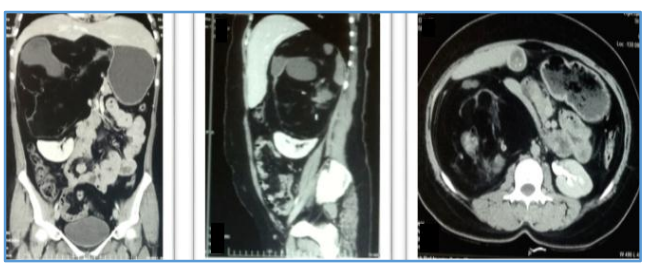
Approx. 12 x 18 x 14 cm size, predominantly fat density lesion with septa and nodule and calcification within it, noted in right hypochondrium and right lumbar region.
Lesion shows loss of fat plane with liver, gallbladder, duodenum, pancreases and right kidney.
Lesion shows involvement of IVC and left renal vein.
Right renal vein and right adrenal gland not seen properly.

P/O

Retroperitoneal liposarcoma is most likely.

2nd P/O

Retroperitoneal teratoma with involvement of adjacent structures and vessels.

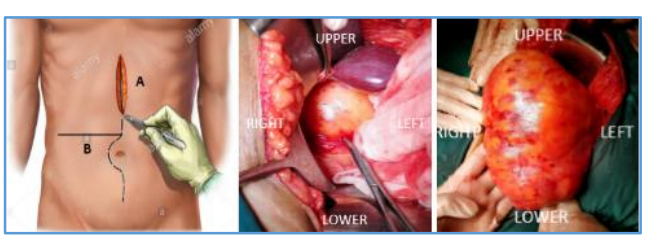


USG-Guided Biopsy-

- Section shows fibrofatty tissue, mainly with extensive necrosis and calcification.
- No evidence of malignancy is seen.

Intraoperative

- Under GA, 15 cm long upper midline incision of abdomen extending 2 cm below the umbilicus made (A).
- Skin, SC, sheath cut and peritoneum opened.
- 20 x 15 x 12 cm sized yellowish mass present in right hypochondrium extending from above base of the liver to below right kidney; medially displaces the IVC and laterally up to abdominal wall.
- Capsule of the mass opened and enucleation started. During enucleation, for better view behind the mass, another 10 cm sized horizontal incision made just above the umbilicus (B).



Whole mass separated from the surrounding except the medially near IVC, where mass was more Hard and Adherent

Whole separated mass cut from the adherent mass first and then adherent mass separated carefully by Safeguarding the IVC and sent for HPE

- Gallbladder identified and separated after ligating the cystic artery and cystic duct and sent for HPE.
- Drain kept in Morrison's pouch and abdominal wall closed.

Weight of Mass around 2.5 kg

Cut Section of mass shows hair, tooth like Material and Fatty Tissue

Post-Operative

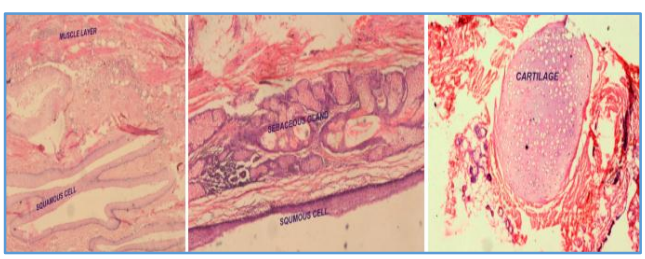
On POD 1, P- 110/ mins
BP- 122/80 mmHg
D/O- 200 cc s/s

- Drain removed on POD 4,
- Patient discharged on POD 5,
- All-SR done on POD 14.

POD-4

Histopathology
Specimen 1)
Retroperitoneal mass shows histology of mature teratoma.

Specimen 2)
Gallbladder shows histology of chronic calculous cholecystitis.



FINAL DIAGNOSIS
Retroperitoneal mature teratoma.

Follow-Up
After 1 month.

USG (A+P)
In region of GB fossa at porta: Sonolucent area s/o fluid collection, measuring about 44 x 26 x 52 mm
Right suprarenal region: An area with heterogeneous echotexture noted, measuring about 82 x 34 x 45 mm

After 6 Months
USG (A+P)
No significant abnormality detected.

DISCUSSION

- Teratomas are congenital tumours arising from pluripotent embryonic cells and therefore have several recognisable somatic tissues.[2]
- Teratomas are usually localised to the ovaries, testis, anterior mediastinum or the retroperitoneal area in descending order of frequency.[3]
- Teratomas constitute less than 10% of all primary retroperitoneal tumours and hence are relatively uncommon.[4]
- Furthermore, retroperitoneal teratomas occur mainly in children and have been very rarely described in the adults. Half of these cases present in children less than 10 years of age and only 1/5 of them present after 30 years of age.
- Retroperitoneal teratomas are often located near the upper pole of the kidney with preponderance on the left. The case described here is therefore unusual because it was a primary retroperitoneal teratoma in an adult, on the right side and adherent near IVC.
- Retroperitoneal teratomas are seen in females twice as commonly than males.
- Teratomas are usually benign if they are cystic and contain sebum or mature tissue.[5]
- Teratomas are usually asymptomatic as the retroperitoneal space is extensive enough to allow for their free growth. When compression of the surrounding structure occurs, patients may get compression symptoms.
- The diagnosis of a retroperitoneal teratoma cannot be made on clinical grounds alone. Ultrasound and computed tomography are important in its diagnosis and may show the presence of calcification, teeth or fat. Calcification on the rim of tumour or inside the tumour is seen in 53 - 62% of Teratomas and although radiologically 3/4 of patients with a benign teratoma may have calcification within it, 1/4 of malignant cases may also demonstrate calcification.
- Computed tomography is better than Ultrasonography in defining the extent and spread of teratoma to the surrounding organs.[6]
- The primary treatment of retroperitoneal teratomas is surgical resection. The most important structures in the abdomen are the aorta, vena cava, superior mesenteric vessels, celiac trunk and duodenum. Damage to these structures may cause overwhelming haemorrhaging, severe post-operative complications and even fatalities. Imaging of the tumour is critical for developing an effective pre-operative strategy and performing a safe surgical excision.
- A malignant teratoma that invades the adjacent structures require more extensive resection and may include the major vessels or organs. Unresectable or marginally resectable retroperitoneal Teratomas may be shrunk following an initial course of chemotherapy.

CONCLUSION

- Primary retroperitoneal teratoma on right side and adherent near IVC is a rare entity in adults. Although usually asymptomatic, large neoplasm can cause abdominal pain.
- Considering the diagnostic difficulty of retroperitoneal teratoma from retroperitoneal liposarcoma by radiological imaging, surgical resection via a minimally invasive approach was done carefully due to adherence near IVC.
- The prognosis is excellent for benign retroperitoneal teratoma if complete resection can be accomplished.

REFERENCES

[1] Muguti GI, Kanakambaran B. Retroperitoneal mature cystic teratoma in an infant. Cen Afr J Med 1997;43:274-6.
[2] Weinstein BJ, Lenkey JL, Williams S. Ultrasound and CT demonstration of a benign cystic teratoma arising from the retroperitoneum. Am J Roentgenol 1979;133(5):936-8.
[3] Bruneton JN, Diard F, Drouillard JP, et al. Primary retroperitoneal teratomas in adults. Radiology 1980;134(3):613-6.
[4] Taori K, Rathod J, Deshmukh A, et al. Primary extragonadal retroperitoneal teratoma in an adult. Br J Radiol 2006;79(946):120-2.
[5] Pantoja E, Llobet R, Gonzalez-Flores B. Retroperitoneal teratoma: a historical review. J Urol 1976;115(5):520-3.
[6] Davidson AJ, Hartman DS, Goldman SM. Mature teratoma of the retroperitoneum: radiologic, pathologic and clinical correlation. Radiology 1989;172(2):421-5.